

Remarks

I. Status of claims

Claims 1-6, 8, 9, 12, and 14-21 are pending.

Claim 9 has been rewritten in independent form in response to the Examiner's indication that such a claim would be allowable. Claim 12 depends from claim 9 and therefore is allowable for at least the same reasons.

II. Claim rejections under 35 U.S.C. § 103

The Examiner has rejected claims 1-6, 8, and 14-21 under 35 U.S.C. § 103(a) over Brinkley (U.S. 5,963,919) in view of Salvo (U.S. 6,341,271).

A. Independent claim 1

Independent claim 1 has been amended and now recites:

1. A machine-implemented inventory planning method, comprising computing an optimal safety stock level for a product to cover uncertainty in demand over an exposure period with a desired service level, wherein the computing comprises executing a safety stock calculation process that directly calculates the optimal safety stock level from a set of input parameter values including a value of a cost of obtaining the product from one or more spot market sources.

The rejection of claim 1 under 35 U.S.C. § 103(a) over Brinkley in view of Salvo should be withdrawn for the following reasons.

1. Neither Brinkley nor Salvo teaches or suggests “executing a safety stock calculation process that directly calculates the optimal safety stock level from a set of input parameter values including a value of a cost of obtaining the product from one or more spot market sources”

Brinkley describes an inventory management system (MISER program 250) that selects one of multiple possible inventory strategies for an inventory item (see, e.g., Summary of the Invention).

After a portfolio of inventory items having the format shown in FIG. 4 is input into the system, the system “stratifies the portfolio based on three criteria: order cost, volume of orders, and number of orders” (col. 9, lines 1-3). “The goal of stratification is to identify the cutoff values used in the various nodes of the decision tree” that is used to select the appropriate inventory strategy (col. 8, lines 47-52). The “cost per order” is the first stratification criteria and is used to identify items that are “high risk” on an order-by-order basis (see col. 9, lines 10-11).

The unit cost input shown in FIG. 4 is used only in the above-described process of determining which inventory strategy to use for a particular inventory item; it is not used to compute a safety stock level for the inventory item. In particular, “Once MISER program 250 determines the recommended optimal inventory strategy for each portfolio item, it calculates additional values necessary to implement the recommended strategy” (col. 12, lines 44-47). These calculations are described at col. 12, line 50, through col. 14, line 13. This detailed description clearly shows that safety stock is computed only for inventory strategies 3, 5, 6; safety stock is always zero for each of the other inventory strategies 1, 2, 4. In each inventory strategy where safety stock is computed, it is computed in the same way: $SS = k(\sigma_{\text{demand}} \sqrt{L})$, where k corresponds to the desired service level, σ_{demand} is the standard deviation of demand per period, and L is the procurement lead time.

Thus, Brinkley’s inventory management system executes a safety stock calculation process in which the safety stock level is calculated solely from a set of input parameter values for the desired service level, the standard deviation of demand per period, and the procurement lead time; the safety stock level is not computed from an input parameter value of a cost of obtaining the product from one or more spot market sources. Indeed, in Brinkley’s approach, the cost of an inventory item is not a factor in the computation of the safety stock level for the inventory item.

Salvo's inventory management system implements two separate functions: (1) monitoring and determining real-time inventory status; and (2) purchasing inventory at a lowest possible price. (See col. 3, lines 41-62). The control unit 114 first determines if an inventory order is needed based on amount signals received from each on-site storage device (see col. 5, lines 1-10). In this process, Salvo's control unit 114 determines if an inventory order is needed based only on the amount of inventory used over time and an estimate of future use (see, e.g., col. 5, lines 7-10). Next, the control unit 114 uses signals received from inventory price source 126 to determine a lowest total inventory purchase price vendor (low price vendor) for the inventory. (See col. 6, lines 7-9 and 47-52). In accordance with Salvo's teaching, the price source module 126 is used only to "to determine the lowest available price for the inventory" (col. 6, lines 7-9). The price source module 126 is not used to supply an input into a safety stock calculation engine or the like.

Thus, neither Brinkley nor Salvo teaches or suggests "executing a safety stock calculation process that directly calculates the optimal safety stock level from a set of input parameter values including a value of a cost of obtaining the product from one or more spot market sources," as now recited in claim 1. Accordingly, no reasonable combination of Brinkley and Salvo possibly could teach or suggest this feature of claim 1.

For at least these reasons, the rejection of claim 1 under 35 U.S.C. § 103(a) over Brinkley in view of Salvo now should be withdrawn.

2. The teaching of Brinkley relied upon in the rejection of claim 1 is not supported by Brinkley's disclosure

In the rejection of claim 1, the Examiner has stated that:

Brinkley et al. shows, figures 4 and 6, an inventory management system. One of the first decision points in the Brinkley system is to compare average order cost to a cost limit (column 10, line 15). The average order cost of the inventory item is the total dollar sales (product cost for spot and non-spot market items) for the total period surveyed divided by the total number of orders for the item during that period. ...

In this statement, the Examiner has given the correct definition of the average order cost of an inventory item (i.e., "the total dollar sales for the total period surveyed divided by the total number of orders for the item during that period" (col. 10, lines 16-18)). The

Examiner, however, has drawn an incorrect inference from this definition. In particular, the total dollar sales of the inventory item is not the cost of obtaining the inventory item from spot market and non-spot market sources. Clearly, the price at which an inventory item is sold (dollar sales) by a business entity typically is not the price at which the entity purchased the inventory item; otherwise, the entity would not make sufficient money to cover fixed costs, in which case the business entity soon would be out-of-business. In fact, the prices at which inventory items are sold are determined by the current conditions under which each product will be sold, including various factors that vary in number and importance for each product and each time period under consideration.

In addition, Brinkley thresholds the average order cost to identify the items that "expose the business to a high risk of loss if an order is incorrectly placed, thereby either sacrificing a large amount of revenue, or necessitating a large amount of dollar-volume in a warehouse" (col. 9, lines 14-20; see also col. 10, lines 12-24). An average order cost that simply measured the cost of obtaining the inventory items from spot market and non-spot market sources divided by the total number of orders would not reflect the amount of revenue that would be sacrificed from an incorrectly placed order nor would it reflect the warehousing costs that would be necessitated by an incorrectly placed order. Therefore, in light of the intended purpose of the average order cost in the context of Berkley's invention, it is unreasonable to believe that average order cost incorporates the cost of obtaining the inventory items from spot market and non-spot market sources.

In the Advisory action dated August 23, 2006, the Examiner has stated that:

Applicant asserts that because the Brinkley reference defines the average order cost as being the total dollar sales for a period, the "average order cost" does not reflect a "cost of obtaining the product" as claimed. The examiner does not concur. The Brinkley reference is not super clear on this point, but the "sales" are replenishment orders (cost), not sales to customers. See column 5, lines 27-28, in the table. The second argument is based on the above assertion and is, therefore, moot.

The Examiner, however, has misread Brinkley's disclosure in col. 5, lines 27-28. In particular, this disclosure relates to the description of the make-to-order inventory strategy in accordance with which "No stock is held in the warehouse and orders are manufactured as needed" (col. 5, lines 23-24). The disclosure in col. 5, lines 27-28 merely teaches that in

accordance with the make-to-order inventory strategy the “Customer Order Entry generates replenishment order directly, e.g., sales.” Contrary to the Examiner’s interpretation, this disclosure does not teach that “sales” are replenishment orders (cost).” Instead, this disclosure simply states that in the make-to-order inventory management approach customer order entries (i.e., sales) drive replenishment orders.

For the reasons explained above, one skilled in the art would not have understood from Berkley’s disclosure that the average order cost defined by Brinkley incorporates the cost of obtaining the product. Therefore, Berkley does not teach computing an optimal safety stock level for a product to cover uncertainty in demand over an exposure period with a desired service level based at least in part on a cost of obtaining the product from spot market and non-spot market sources, contrary to the inference relied upon by the Examiner in the rejection of claim 1.

3. One skilled in the art at the time the invention was made would not have been motivated to combine the teachings of Brinkley and Salvo as proposed by the Examiner

The Examiner has suggested that “it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify Brinkley et al. system to incorporate the inventory price source module of Salvo et al as a source for many set of input values in the Brinkley et al. process which plans safety stock levels in order to optimize purchase value.” As explained above, however, contrary to the Examiner’s assumption, the cost of obtaining the product (from spot market and non-spot market sources) is not an input into the portfolio stratification process executed by Brinkley’s MISER program. Therefore, one skilled in the art at the time the invention was made would not have been motivated to incorporate Salvo’s price source module as a source of an input into the portfolio stratification process.

Instead, the combination of Brinkley and Salvo that is most consistent with the teachings of both references would result in the use of Salvo’s price source module to determine the low price vendor AFTER a decision to order an amount of an inventory item has been made by Brinkley’s MISER system. Indeed, this is the type of configuration that Salvo expressly discloses in col. 5, lines 1-10 and col. 9, lines 8-18 (i.e., where the price source module 126 determines the lowest total inventory purchase price based on real-time

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inventory status information and estimates of future inventory needs). Thus, in accordance with a proper reading of the disclosures of Berkley and Salvo, one skilled in the art at the time of the invention would have used Brinkley's system to supply an input into Salvo's price source module, not vice versa as proposed by the Examiner.

4. Conclusion

For the reasons explained above, the rejection of claim 1 under 35 U.S.C. § 103(a) over Brinkley in view of Salvo now should be withdrawn.

B. Claims 2-6, 8, and 14-21

Each of claims 2-6, 8, and 14-21 incorporates the features of independent claim 1 and therefore is patentable over Brinkley and Salvo for at least the same reasons explained above.

III. Conclusion

For the reasons explained above, all of the pending claims are now in condition for allowance and should be allowed.

Charge any excess fees or apply any credits to Deposit Account No. 08-2025.

Respectfully submitted,

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